**Lab sheet #1**

**-Identification of the common laboratory glassware, pipettes and Equipment-**

**-Objective:**

* To be familiar with most common biochemistry lab tools and equipment

**-Method and Results:**

1. **Identification of the common laboratory glassware:**

|  |  |  |
| --- | --- | --- |
| **Glassware number** | **Type of glassware** | **Final volume (capacity)** |
| **1** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |
| **5** |  |  |

 **A.** Write the type and final volume of glasswares that presented to you.

**B. Comparing between glassware accuracy:**

1. Place a beaker in the electronic balance, and read the weight.
2. Remove the beaker from the balance, and add 5ml of water using a graduated pipette (Mohr).
3. Record the weight.
4. Repeat the procedure again by using measuring cylinder this time.
5. Record the weight.

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of glassware** | **Weight of beaker (g)** | **Weight of beaker + water (g)** | **Weight of water (g)** |
| Graduated pipette  |  |  |  |
| Measuring cylinder |  |  |  |
| **Which one is more accurate?** ………………………………………………………. |

**C. Identification of the common laboratory pipettes:**

1. Examine the three pipettes placed on your laboratory bench.
2. Record their types and the volume of their smallest division.

|  |  |  |
| --- | --- | --- |
|  | **Type of pipette** | **Smallest division** |
| A |  |  |
| B |  |  |
| C |  |  |

**2- Identification of the common laboratory equipment:**

**D. pH meter:**

1. Standardize the PH meter by placing the electrode in a solution of known pH
(PH 4 , 7, 10 ) 🡺 **Calibration.**
2. Wash the electrode with distilled water and dry by tissue then put it into sample solution A then wash it again and place it in solution B 🡺 **Read pH.**

**Note:** After use the electrode, you should storage it in distilled water and never be allowed to dry out. If the electrode get dry it will required reactivation.

|  |  |  |
| --- | --- | --- |
| **Solution** | **pH value**  | **Neutral, acidic or basic**  |
| Standard 4 |  |  |
| Standard 7 |  |  |
| Standard 10 |  |  |
| Sample A |  |  |
| Sample B |  |  |

**E. Spectrophotometer:**

1. Adjust the spectrophotometer to zero using distal water as blank in the cuvette.
2. Read the absorbance of standard solution and the solution of unknown concentration at **280 nm.**
3. Read your result.

|  |  |
| --- | --- |
| **Absorbance at 280nm** | **Solution** |
|  | BSA standard solution (0.5 g/100 ml) |
|  | Solution of Unknown concentration  |

**Calculation:**

 **C unknown =** C standard x A unknown

A standard

C standard **🡺** A standard C unknown **🡺** A unknown

Where, **C standard =** concentration of standard solution, **C unknown =** concentration of unknown solution,
**A standard =** Absorbance of standard solution, **A unknown =** Absorbance of unknown solution.

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………